

REMARKS

This is in response to the Official Action dated October 8, 2009. Claims 1, 5, 7, 8, 17, and 19 have been amended, claim 2 has been canceled without prejudice or disclaimer, and no claims have been added; as such, claims 1, 3-5, 7-17 and 19 remain pending in this application. Claims 1, 5, 7-8, 17 and 19 are independent claims. Reconsideration and allowance is requested in view of the claim amendments and the following remarks.

35 USC § 103 Rejections

Claims 1-19 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Willis et al (WO 01/35650, hereinafter referred to as "Willis '650") in view of either Aridome (U.S. Pub No. 2004/0126097, hereinafter referred to as "Aridome '097") and further in view of Lane et al (U.S. 5,377,051, hereinafter referred to as "Lane '051"). Applicant respectfully traverses this rejection.

Claim 1 recites:

A recording apparatus for dividing a video stream into data segments, each data segment containing at least one frame of video data, and recording data onto a data recording medium on a per data segment basis, comprising:

***information generating means** for generating additional data, separate from the video stream, containing additional information regarding the relationship between the video data contained in one data segment and the video data contained in another data segment or additional information regarding characteristics of the video data contained in each data segment*

wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed,

video data amount information regarding an amount of video data contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment;

multiplexing means for multiplexing the additional data with the data segment at a predetermined position thereof; and

recording control means for controlling the recording of the data segment onto the data recording medium.

Willis '650 fails to disclose, teach, or suggest "wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed, video data amount information regarding an amount of video data contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment."

Thus, Willis '650 fails to teach, disclose, or suggest a "multiplexing means for multiplexing the additional data with the data segment at a predetermined position thereof."

Willis '650 provides advanced operation features for audio only, video only and both video and audio programs recorded on disc media. Willis '650 discloses a method that involves storing on the DVD within each navigation pack certain supplemental disc search information (SDSI). The picture structure portion of the SDSI can be comprised of information concerning a format of each group of pictures (GOP) contained with said VOB; a sequence of picture types in each GOP in the VOB; start addresses for each picture of said VOB; and end addresses for each picture of the VOB.

Page 2, line 22 to page 3, line 16 of Willis '650 states:

Typically, the VOB contains about 12 or 16 pictures, together with associated audio data. Further, each VOB begins with exactly one navigation pack (NV-PCK).

The NV_PCK conventionally contains presentation control information (PCI) as well as disc search information (DSI) for the video object unit in which they are included. The presentation control information contains details of the timing and presentation of a program. The disc search information is composed of relative addresses of NV packs of VOBUs in the forward and backward directions. Each NV_PCK also includes the data size of the first reference picture in a GOP and the end address for the first three reference pictures in the VOB. This is the only clue given as to the structure of the VOB.

The disc search information is useful in performing "trick" modes of playback, that is, any mode of disc player operation other than normal play, stop and pause. One aspect of conventional disc search information (DSI) is that it helps the decoder to find I pictures within the VOB corresponding to the current NV_PCK. The NV_PCK also contains data which helps the decoder to find VOBs far into the future or past of presentation, relative to the current VOB. The VOBs in the past relative to the current VOB presentation are referenced in fields of the NV_PCK known as the BWDI (backward information). The VOBs in the future relative to the current VOB presentation are referenced in fields of the NV_PCK known as FWDI (forward information). The conventional DSI data does permit, to a limited extent, special display modes involving reproduction of video. For example, in conventional systems, fast forwarding and rewinding are made possible by reproducing only the reference I pictures of VOBs having a predetermined time interval between them. The predetermined time interval chosen is generally a function of the relative rate of forwarding and rewinding. However, because of the limited amount of information contained within conventional NV_PCKs, the flexibility trick modes is severely limited. For example, the NV_PCK data does not include much information regarding the internal structure of each GOP contained within a VOB.

Though Willis '650 discloses how a decoder can find I pictures within the VOB corresponding to the current NV_PCK which contains data that helps the decoder to find VOBs far into the future or past of presentation, relative to the current VOB, there is no mention of wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed.

Moreover, there is no mention of a multiplexing means for multiplexing the additional data (as defined by the previous section of the claim 1) with the data segment at a predetermined position thereof in Willis '650.

- **Therefore, Willis '650 fails to disclose, teach, or suggest wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed, video data amount information regarding an amount of video data contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment.**

Aridome '097 does not remedy the deficiencies of Willis '650, as the various features recited above are also absent from Aridome '097. For example, Applicant's claimed features of *"wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed, video data amount information regarding an amount of video data contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment,"* are neither disclosed nor suggested by Aridome '097.

Aridome '097 relates to a method and an apparatus for recording image information on recording media such as disks by means of compression and encoding and to a method and an apparatus for reproducing the same. There is provided read/write unit information as a unit of reading and writing the compressed image information to the recording medium. The read/write unit information contains a plurality of units of decoding and reproducing unit information that comprises one frame (or one field) of the image information. At least one piece of decoding and reproducing unit information is subject to compression encoding through the use of only image information in the decoding and reproducing unit. In the read/write unit information, there is multiplexed and recorded additional information about the decoding and reproducing unit information for a plurality of units within the read/write unit in an extractable manner separately from the compressed image information.

Though Aridome '097 discloses additional information (ARI_DATA) that comprises an additional recording identifier, application information, recording time information, and camera information wherein the additional recording identifier is used to identify data in the packet to be the additional information (additional recording information) and contains an additional recording information data identifier and its version number, there is no mention of wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed.

Since even a combination of the relied upon references would still fail to yield the claimed invention, Applicant submits that a prima facie case of obviousness for claim 1 has not been presented. Applicant also notes that the offered combination appears to be a failed attempt to reconstruct the claimed invention in hindsight, as there is no basis to combine the improved trick mode of Willis '650 with the recoding and reproducing medium of Aridome '097.

Lane '051 does not remedy the deficiencies of Willis '650, as the various features recited above are also absent from Lane '051. For example, Applicant's claimed features of "*wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed, video data amount information regarding an amount of video data contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment,*" are neither disclosed nor suggested by Lane '051.

Lane '051 discloses video receivers that are capable of receiving commands and/or detecting trick play modes of recorder operation and performing, e.g., error concealment operations in response to the received commands or detected mode of trick play recorder operation. The apparatus of Lane '051 comprises a transport and priority decoder circuit coupled to the digital VTR port and the video decoder. The transport and priority decoder circuit receives the video/audio

transport data packets and VTR commands and performs depacketization and priority decoding on the video data to generate video codewords which are supplied to the video decoder for additional processing and error concealment operations prior to display of the video data.

Col. 51, lines 1-9 of Lane '051 states:

The trick play circuit's VTR framing and ECC circuit receives the video/audio transport data packets from the data filter and adds additional header information to each packet which identifies the information pertinent to retrieval during VTR trick play operation. Such header information may include an identifier as to what particular trick play speed of operation, e.g., 9 X fast forward, and thus what particular fast scan track, a particular data packet is assigned.

There is *no mention* of wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed in Lane '051.

Since even a combination of the relied upon references would still fail to yield the claimed invention, Applicant submits that a prima facie case of obviousness for claim 1 has not been presented. Applicant also notes that the offered combination appears to be a failed attempt to reconstruct the claimed invention in hindsight, as there is no basis to combine the improved trick mode of Willis '650 with the trick play image enhancement of Lane '051.

For the reasons stated above, claims 5, 7-8, 17 and 19 also are distinct from the Willis '650 in view of either Aridome '097 or Lane '051 (although claims 1, 5, 7-8, 17 and 19 should be interpreted solely based upon the limitations set forth therein). Furthermore, at least for the reason disclosed above, claims 3-4 and 9-16 overcome the combination of Willis '650 in view of either Aridome '097 or Lane '051 because they depend their respective independent claim and thus incorporate the distinct features therein, as well as their separately recited patentably distinct features.

Accordingly, Applicant respectfully requests that the rejection of claims 1, 3-5, 7-17 and 19 under 35 U.S.C. § 103(a) as being unpatentable over Willis '650 either Aridome '097 or Lane '051 be withdrawn.

Conclusion

In view of the above amendment and remarks, applicant believes the pending application is in condition for allowance.

This response is believed to be a complete response to the Office Action. However, Applicant reserves the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicant expressly does not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 CFR 1.104(d)(2) and MPEP § 2144.03.

Extensions of time

Please treat any concurrent or future reply, requiring a petition for an extension of time under 37 C.F.R. §1.136, as incorporating a petition for extension of time for the appropriate length of time.

The Commissioner is hereby authorized to charge all required fees, fees under 37 C.F.R. §1.17, or all required extension of time fees.

Fees-general authorization

The Commissioner is hereby authorized to charge any deficiency in fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm).

Application No. 10/572,791
Amendment dated October 27, 2009
Reply to Office Action of October 8, 2009

Docket No.: SON-3402

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: October 27, 2009

Respectfully submitted,

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